



Syllabus
(Fall18)
CIT 472: Advanced Telecommunications I
Faculty: Yaser Mowafi, Ph.D.

Course Description

This course examines strategies for planning, designing and implementing wireless networks including Wi-Fi ad hoc networks, hybrid wireless, etc. as part of an overall organizational network strategy. The course also provides students with the conceptual knowledge and hands-on skills needed to work with wireless technology in a network administration environment.

Credit Hours: 3

Prerequisite: CIT 372

Objectives and Learning Outcomes

The course main objective is to explore fundamental concepts in wireless networking technologies. Topics include planning, designing, installing, securing, and configuring wireless LANs.

Upon completion of this course, students will be able to:

- Explain basic wireless data network concepts.
- List and explain the details for planning and designing wireless data networks.
- Perform wireless data networking packet capture activities and site surveys.
- Discuss the functions of specific TCP/IP protocols as they relate to wireless data.

Welcome!

Welcome to CIT 472 –Telecommunications II! My name is Yaser Mowafi, and I am anticipating a rewarding, fun experience for all of us with the primary focus being that you have an opportunity to learn about the CIT Program.

Class Location/Times

This class is delivered in an online format. Because it contains a significant number of online assignments, it will be necessary for students to have access to reliable Internet connections. The class is available at the following website: <https://blackboard.wku.edu>

Required Material(s) Textbook

Textbook: CWNA Guide to Wireless LANs, 3rd Ed, or above, Mark Ciampa, by Course Technology, Cengage Learning ©2013 ISBN-13: 9781133132172 ISBN-10: 1133132170

The textbook should be available in both print and online formats.

Software: MS Windows, Microsoft Office software

Instructor Information

Name: Yaser Mowafi, Ph.D.

Office: EST, RM138 Email: yaser.mowafi@wku.edu Phone: Voice 270-745-3415

My office hours are as follows:

Monday through Thursday, 9:30-11:30 AM CST

Email is the best method of contact. I usually respond in less than 24 hours except on weekends. Please try not to wait until the weekend.

Note that if you try to contact me late on Friday, you will likely not get a response until late Sunday or early Monday.

Grading

Grade Distribution:

| Item | Percentage |
|--------------------|-------------|
| <i>Exams</i> | <i>30%</i> |
| <i>Assignments</i> | <i>30%</i> |
| <i>Discussions</i> | <i>10%</i> |
| <i>Final Exam</i> | <i>30%</i> |
| <i>Total</i> | <i>100%</i> |

- Tests can only be made up in extreme circumstances.
- No late homework assignments will be accepted.

Grading Letter and Distribution:

| | |
|---|-----------|
| A | 90 – 100% |
| B | 80 – 89% |

| | |
|---|-----------|
| C | 70 – 79% |
| D | 60 – 69% |
| E | Below 60% |

Grade Reporting

Students will be required to check Blackboard for posting of grades throughout the term.

Academic Dates

To determine important academic dates such as the last day to drop with a W, or the final exam schedule, please see http://www.wku.edu/registrar/academic_calendars/

Assignment Submission

- Assignments must be completed using MS Word for the written assignments. You will use Wireshark to complete labs that capture packets and analyze them.
- All work submitted by students must follow the assignment guidelines or points will be deducted.
- The student should keep a copy of all assignments. In the event that an assignment is misplaced, lost, or the instructor is unable to open the document when uploaded to Blackboard, the burden of proof that the assignment was completed rests with the student.
- All assignments must be submitted online via Blackboard.
- Any student found cheating or copying from another student's work, or found to have plagiarized from other material (or using any materials for an assignment not completed by that student) will receive a grade of 0 for the assignment in question, and may face further disciplinary action according to university policy.

Final Exam

All CIT exams must be proctored. While you may be able to use the proctor of your choice at the location of your choice, you must register with the WKU testing center in order to have your proctor approved (see <http://www.wku.edu/testing/> for more details). Note that you must pre-register with the testing center before taking the exam, which is usually no less than 10-days prior. I highly recommend that you register early. Final exams must be taken during final exam week. You may choose Monday through Wednesday during finals week to take the exam.

Attendance Policy

Because this is an online course there is no classroom attendance requirement. However, I strongly encourage you to remain actively involved in this course. Some suggestions for doing this are: 1) check your WKU email and Blackboard regularly for course announcements and information; 2) stay abreast of all due dates as they are added to the course schedule on Blackboard; 3) contribute regularly and effectively to the online discussions; 4) complete all work on time and to the very best of your ability.

Discussions

For all discussion responses, you will be graded on four characteristics:

All students must participate in the discussion board throughout the semester. ***A minimum of 4 substantive posts per week*** is expected from each student. Remember that for all discussion responses, students will be graded on four characteristics:

- Timeliness - For full points, you must SUBSTANTIVELY (~200-250 words) contribute your thoughts to the discussion FOUR out of seven days (~200-250 X 4 days = ~800-1000 words per week).
- Style/Mechanics - For full points, postings must be TOTALLY free of grammar issues, and follow APA Style.
- Comprehension - For full points, ALL postings must reflect comprehension of the topic(s).
- References - For full points, ALL postings must be supported with the text or other SCHOLARLY source citations/references.

Instructor Feedback

In general, I will post weekly grades no later than the Thursday following the end of the class week. I tend to comment little if you are doing well (>80%) and comment more if you are not (< 80%). However, at any time if you have questions about any comments and/or grades, please contact me within three or four days at most while the issues are still fresh in both our minds. This will help to iron any issues out as soon as possible.

Also, if I mistakenly note you as missing any assignments and you did submit them, please *immediately* let me know the time and date you posted. I will be more than happy to download the post and correct my records. I will not make changes to grades after one week of posting.

Non-Graded Assignments

Some activities that you will complete during the course are ungraded or carry no point value (like reading assignments). However, it is very important that you complete these activities. Non-completion of these activities may negatively impact your graded work.

Incompletes

All incomplete requests must follow school guidelines. See the catalogue.

Extra Credit There is no extra credit or make-up work as the class assignments reflect what is required for successful completion of this course.

Outline

We will cover chapters 1 through 12.

Chapter 1. The Wireless World.

Chapter 2. Wireless Local Area Networks.
 Chapter 3. Radio Frequency Fundamentals.
 Chapter 4. Antennas.
 Chapter 5. Physical Layer Standards.
 Chapter 6. Medium Access Control Layer Standards.
 Chapter 7. Wireless LAN Management and Architectures.
 Chapter 8. Conducting a Site Survey.
 Chapter 9. Wireless LAN Security Vulnerabilities.
 Chapter 10. Implementing Wireless LAN Security.
 Chapter 11. Managing a Wireless LAN.
 Chapter 12. Wireless Network Troubleshooting and Optimization

On average students will have between one and two weeks to complete the assignments for each chapter, and are expected to dedicate about 4 to 5 hours per week to complete these assignments, so please plan accordingly. My advice to you is that you need to try to complete your assignments at least two days before the due date in order to be able to take care of any problems that might arise. For example, you might need to ask for assistance on how to do an assignment, or your internet may not work, or the website is not accessible. Please try to foresee some of these problems.

Academic Standards

I expect all students to support the same respect for individuals, commitment to issue and problem resolution, and open communication and feedback as in any learning environment. Specifically, all students are expected to:

- Accept responsibility and accountability for all use actions and content posted to any online classroom, public meeting or personal inbox (email).
- Maintain the same ethical standards expected in a collaborative, academic environment.
- Demonstrate respect for all faculty, students, and staff regardless of age, race, gender, religion, national origin, veteran's status, disability, or sexual orientation.

In the online environment, the following will not be tolerated:

- Harmful, threatening, libelous, or abusive content.
- Profanity of any kind.
- Copyright infringement or violation of patent, trademark, proprietary information, or confidentiality agreements.
- Misrepresentation of identity through alteration of inbox (email) names.
- Posting unsolicited advertisements to public meetings or private inboxes- no spamming!
- Transferring computer viruses, intentionally or unintentionally, or other code that disrupts or interferes with other users' use of the online environment or personal computers, systems, or networks.

Honesty

I highly value academic honesty. Please see <https://www.wku.edu/studentconduct/process-for-academic-dishonesty.php>

A student must always submit work that represents his or her original words or ideas. If any words or ideas are used that do not represent the student's original words or ideas, then the student must cite all relevant sources. The student should also make it clear the extent to which such sources are used.

Words or ideas that require citation include, but are not limited to, all hardcopy or electronic publications, whether copyrighted or not, and all verbal or visual communication when the content of such communication clearly originates from an identifiable source.

All submissions to any public meeting or private mailbox fall within the scope of words and ideas that require citations if used by someone other than the original author.

Academic dishonesty in an Online learning environment could involve the following:

- Having a tutor or friend complete a portion of your assignments
- Having a reviewer make extensive revisions to an assignment
- Copying work submitted by another student to a public class meeting
- Using information from on-line information services without proper citation

Any of these practices could result in charges of academic dishonesty. Sanctions range from failing assignment or class grades to expulsion.

I consider academic honesty a very serious issue. I have, and will fail students that I discover are not adhering to the above guidelines.

Class Navigation

Go to <http://blackboard.wku.edu> and follow the login instructions (usually available by the first day of class). This site will be the primary means for quizzes, grades, announcements, exam and homework scores, reading materials, discussions, and other supplemental course information that you will need. Please be sure and check this site regularly.

Computer Access

This class requires each student to make use of several software packages, various other software tools and the Internet. All required resources are available either in the general Student Computer Labs across campus, on WKU Extended campuses, and typically, at public libraries. Lack of hardware, software and Internet connectivity at home to complete any assignment is not an acceptable reason for not completing work. You may work from any location you prefer (home, work, etc...), but you will need access to MS Office software.

Technology Issues

School servers are unavailable from time-to-time. Accordingly, I will accept e-mailed assignments to my personal mailbox for time-stamping purposes only. However, once Blackboard is available to you, in order to receive a grade, the assignment must be posted to the designated discussion board or drop box as detailed in this syllabus.

Please make sure that you have a reliable network connection prior to your attempts to take online exams, to avoid any Blackboard system lock-up during a quiz or exam. If this happens, please contact me as soon as possible. Also, from time to time the Blackboard system will lock-up during a quiz or exam. If this happens, please contact me as soon as possible. I can only reset the exam, which means you will have to take it over (this includes final exams). If you wait until the last minute to take an exam, you may not be able to reset due to time limitations.

For comments/complaints about technology issues (for example, Blackboard exam problems), please contact the Office of the Chief Information Technology Officer (270-7452243).

<http://www.wku.edu/infotech/index.php?page=VP>

Late Assignments

Due to the nature of this course and based upon my teaching experience, it is critical that you are timely in submitting the assignments. Since all assignments are made available before they are due, no late work will be accepted for any reason. Again, no late work will be accepted for any reason. Please do not wait until the last minute to do your assignments; no late work will be accepted for any reason.

Cancellations

If you are dropped for any reason (lack of payment, etc.), your access to Blackboard may be terminated. In this event you will **NOT** be permitted to make up on-line course assignments/activities during the time you lost access to Blackboard.

Student Disability

Services Students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Office for Student Disability Services, Room 445, Potter Hall. The OFSDS telephone number is (270) 745-5004 V/TDD.

Please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the Office for Student Disability Services.

Grievance Process

If you are unhappy with any aspect of the course, please contact me via email with a detailed explanation of the problem. I will do my best to help resolve the issue. Also please contact the program coordinator, Dr. Mark Revels, at mark.revels@wku.edu

Schedule Exceptions

I will not approve any schedule exceptions.